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Warsaw

- a. Szymanowski - at present Minister of Communications though at the same time Director of the Technical Institute in Warsaw; Communist; an all-around physicist who studied for many years in the US; has little time for the Technical Institute and no longer engages in any independent research.
- b. Pienkowski - specialist in optical physics; well known during the war as rector of the "Underground University"; now director of the Physics Institute of the University of Warsaw; an excellent organizer and advertiser who has succeeded in raising funds from the government for the rebuilding of the Institute.
- c. Professor Soltan - leading experimental physicist in Warsaw and a specialist in the atomic field; worked in England in 1935 with Lauritsen and Crane; expert in construction and operation of cyclotrons; made frequent trips to Western Europe in 1947 and 1948 for the purchase of technical equipment for his laboratory.
- d. Buras - assistant at the University of Warsaw; nuclear physicist; Jewish; ardent Communist; visited US in late 1947 as member of group of architects; spent some time during this visit at MIT.

Prakow

4. Niewodniczanski - specialist in optical and nuclear physics; formerly at Wilno, now directs Physics Institute at the University of Krakow and has to spend most of his time in administrative affairs although he is a brilliant physicist; age around 50; was originally trained in Russia and worked for some years before the war in England where he was closely associated with the British physicist, Cockcroft. Cockcroft attempted to get Niewodniczanski to England at the beginning of the war, but the latter put off making a decision until it was too late and now regrets having stayed in Poland. He and Weyssenhof (below) traveled to Berlin in 1947 to purchase technical equipment for the Institute at Krakow.

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- b. Weyssenhof, Jan - Professor of Theoretical Physics, age 60, specialist in the field of cosmic-ray research; recently spent a year doing independent research in Switzerland and has since returned to Poland; editor of the only Polish periodical devoted to physics, "Acta Physica Polonica".
- c. Zlotowski - was representative of Poland in UNESCO; an ardent Communist, but a good scientist; an outstanding physical-chemist who worked for many years in the US and also worked before the war with Joliot-Curie on construction of cyclotrons; now working chiefly in medical and biological experimentation with isotopes.
- d. Gerula - young nuclear physicist now studying on government stipendium at the Federal Technical School under Professor Scherrer in Zürich, Switzerland; described as the "white hope of Krakow"; an ardent Catholic; returning to Poland in December 1949.
- e. Makiej - young nuclear physicist now studying in England under Oliphant but shortly returning to Krakow. (Makiej and a number of other physicists now at Krakow came there from Wilno with Niewodniczanski.)

Torun (N. Copernicus University)

- a. Rayski, Jerzy - recently returned to Poland after having studied in Zürich on government stipend for a year; theoretical physicist; age 32; after having taught at Krakow and Warsaw, was appointed to the newly-opened university at Torun in order to build up its physics department.

2. Research Projects and Equipment

- a. The end of the war found the physics research facilities at both the major Polish universities, Warsaw and Krakow, without even the most elementary kind of equipment as a result of the German policy of utter liquidation of educational and scientific institutions. Leading physicists therefore first attempted after the end of the war to procure from wherever possible the most basic electrical and optical measuring instruments in order to have the barest means for classroom demonstrations and simple laboratory experiments.
- b. In 1947 Weyssenhof and Niewodniczanski of Krakow spent some time in Berlin buying up secondhand electrical and radio equipment and succeeded in acquiring a "few rooms full" of odd measuring devices which they served as a beginning for the reopening of the physics laboratories in Warsaw and Krakow. Orders were also placed at the time with I. G. Farben for high-temperature heating equipment for research in physical chemistry, but this equipment was never delivered.
- c. Also during 1947, Professor Soltan from Warsaw visited Switzerland in the attempt to acquire high voltage equipment for the Physics Institute at Warsaw. He was able to place orders with the firm of Emil Haeefely & Co., Lehenmattstr. 353, Basel, for a single high-voltage generator for Warsaw. This generator was to be of the Greinacher type (cascade), capable of producing 1 million volts. It has as yet not been delivered to Warsaw. During the past few months (summer 1949) the University of Krakow also placed an order with the Haeefely company for a generator similar to that ordered by Warsaw but does not expect it to be delivered for a least a year.
- d. In the building of the Physics Institute at the University of Warsaw, underground space has already been cleared and laid out for the installation of the high voltage generator. In the same underground laboratory, space has been cleared for the installation of a small cyclotron. During the war Professor Soltan had ordered the parts from the Phillips Co. for a small cyclotron described as "about the size of the original Lawrence cyclotron". Some of these parts were destroyed or lost during the war, but the magnets reportedly survived as well as other small parts. Soltan hopes to be able to procure parts still lacking and to be able to install and operate the cyclotron not long after the generator arrives.

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- e. When and if completed, the installation of generator and cyclotron at Warsaw will afford only the most limited means for experimentation because of the very modest scale of the equipment. Soltan himself is under no illusions concerning the kind of work that can be done and has stated to colleagues that he cannot possibly compete with any research being done in the West but merely wishes to be able to keep up with the basic theoretical and practical advances in his field. The publicity given to the rebirth and growth of the Physics Institute at the University of Warsaw is solely a result of the advertising and boast-

A recent Voice of America broadcast allegedly stated that over fifty research scientists were working in Warsaw on secret projects of a military nature. Source states that the total number of persons in the Physics Institute is not greater than twenty-five, most of whom are students just now beginning to work in the experimental nuclear field since there was no possibility of working in this field at all until recently. Only the persons trained before the war, previously enumerated, would be in a position to carry on advanced research, which is, however, impossible since there is no equipment for it. Source states that the money for the Warsaw laboratories was thought to come from military funds, a rumor widely circulated in Warsaw, which in turn gave rise to the supposition that the research being conducted was of a military nature. Source further maintains that aside from the laboratories in Warsaw and Krakow herein discussed, there are no secret laboratories devoted to military purposes and managed by the military.

- f. Unlike Warsaw, Krakow has no plans for a cyclotron. The major physics research work in Krakow, aside from purely theoretical physics, is in the field of cosmic rays under the guidance of Weyssenhof. This project is being emphasized since certain aspects of cosmic-ray research can be carried out with a minimum of equipment and since the salt mines in the region around Krakow afford opportunity for observing the effect of cosmic rays below the surface of the earth. Even here, however, great difficulties are encountered since the high percentage of salt in the atmosphere causes corrosion and deterioration of the instruments and a short period of experimentation and necessitates continual correction and calibration.
- g. Previous rumors of the existence of an atomic pile or the construction of one at Warsaw or Krakow are described by source as again based solely on the discussions which have taken place among Polish scientists and the publicity given by Pienkowski. Source states that the matter has been discussed as a possibility for the dim future, but that the majority of mature Polish physicists are against bothering to make plans for such a remote time. Should a pile ever be built, source is certain that the site would be midway between Warsaw and Krakow so that scientists from both places could reach it with equal ease or difficulty.
- h. To the best of source's knowledge, the only uranium for experimental purposes now in Poland is the 100 gr. in the possession of the University of Krakow. This amount was stolen and brought to Krakow by a Krakow student who was working for a time in the Russian mines in Lower Silesia. (Source states that the Russians are mining for ores containing uranium on the Polish side of the Lower Silesian border as well as on the German side.) This amount is insufficient for any experimentation other than laboratory demonstrations. Other components or devices useful in nuclear research, such as heavy water, isotope-separation equipment, etc., are completely non-existent in Poland.

### 3. Contact between Polish Scientists and those of Other Countries

- a. Visits to Western European countries by physicists for the purpose of buying equipment, such as described above, were possible only during the earlier days of the Communist government before the channels for government

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export-import activity had been set up. Any requests for equipment to be sent outside Poland are now channeled from the universities through the proper government offices and put into the hands of the state purchasing monopolies Varimex and Polimex for execution.

- b. Visits of Polish scientists to Western European countries to attend scientific congresses or to study abroad have become almost impossible. Four leading Polish physicists, among them Soltan and Buras from Warsaw (mentioned above), had expected to attend the recent congress of nuclear physicists at Basel and Come. At the last minute permission to leave the country was withdrawn and none of them attended. Since Buras is known as a loyal Communist and was even allowed as late as 1947-1948 to visit the US, the present refusal appears to be the result of blanket orders permitting no scientists whatsoever to leave the country in the future. During the last year no further stipendia for study abroad have been granted to promising students. Following the recent return to Poland of Rayski and Weyssenhof (see above), the anticipated return of Makiej from England and Gerula from Switzerland will leave no further Polish physicists studying in Western Europe.
- c. Defections among the Polish physicists allowed to study or visit abroad in the last year or so have been rare and can therefore not be the cause of the apparent prohibition put on further visits abroad. Men with families have not been allowed to travel with their families and have therefore returned. Single men have, for the most part, returned not because they were Communists, which most of them were not, but because their positions and salaries in Poland and their loyalties to their colleagues and to the cause of rebuilding science in Poland were reason enough to cause them to wish to return. Scientists wishing to study abroad, whom source would have expected to defect had they been let out of the country, were in every case denied exit permits, which fact shows that the government was well aware of their frame of mind and presumably carefully investigated each applicant before permitting him to leave.
- d. The Polish universities still receive Western scientific periodicals and still allow copies of the Polish physics journal "Acta Physica Poloniae", to leave the country. The latter journal, a quarterly, has published only two issues since the end of the war, however, and these were devoted entirely to treatises on theoretical physics.

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